

LTRC No. 14-1GT, State Project No. 30001424

Calibration of Region-Specific Gates Equation for LRFD

Questions and Answers

- The RFP states “the objective of this project is to recalibrate the Gates equation using Louisiana data and update the resistance factor of LRFD using the modified Gates equation.” Does the scope of work include possible modifications to the existing (i.e., FHWA-modified) Gates equation followed by evaluation of the LRFD resistance factor for the new equation, or is the scope limited to evaluating the LRFD resistance factor for the existing Gates equation applied to pile and soil conditions in Louisiana?

Response: The scope of work should include possible modifications to the existing (i.e., FHWA-modified) Gates equation followed by evaluation of the LRFD resistance factor for the new equation.

- Has the Pile Load Test Data format been incorporated into the “Geotechnical Information Database – LTRC No. 10-2GT? Have the pile load test data from LTRC 07-2GT been uploaded to the “Geotechnical Information Database”? Are the original construction documents readily available if additional information is needed for this research project? The researchers will make great efforts to search for pile testing and subsurface soil data. Prior to the project (LTRC No. 14-1GT, SIO No. 30001424), the researchers who have completed projects 07-2GT, 10-2GT and 04-1GT may have formed various databases in that respect. Would the databases be made available to the researchers whose proposal gets funded? Does LADOTD want to add more pile load tests than have been documented in LTRC 07-2GT, if so, approximately how many additional test are there and is the documentation readily available?

Response: Not all available data has been incorporated into the “Geotechnical Information Database” developed under LTRC Project 10-2GT. The database from 10-2GT may include some pile load test data; however, this database is not yet being used day-to-day production work. DOTD’s geotechnical section has been working independently on another database for this (14-1GT) research effort. This new database contains relevant test pile data accumulated from LADOTD projects and will eventually be combined into the 10-2GT project. However, it can be used as a standalone database for the purpose of this research. There are currently 40 test piles in the database and anticipate that the number of test piles could grow to 60 or so in the near-term. More data are constantly being added and requests are being sent to consultants to obtain additional non-DOTD project info. The access to other data in other research databases will depend on the needs and availability. Also, the original construction documents for the test pile used in 07-2GT are in DOTD/state archives but may not necessarily be readily available without search effort.

- Regarding the benefit-cost assessment, the benefits of the proposed research are clear, i.e. increased reliability of the pile capacity verification method, fewer piles failing to meet the design pile capacity requirements due to inconsistency between the reliability of the design methodology vs. pile capacity verification method, etc. Less clear is how LADOTD wants to determine the costs. After all, the cost of using a new value of the resistance factor in the LRFD design equation is nil. One view is that the cost is the cost of the research project (\$90k). Can you provide any information on how you want the research team to assess the cost of implementation?

Response: The benefit-cost assessment should include an estimation of the potential saving in construction cost with a higher reliability. (i.e. less costs for original pile length, pile buildup, pile cut off, etc.) The return-on-investment from the research costs should not be included in the scope of this project.

- The RFP mentioned the worst-case resistance factor used in the Design is 0.5. Can you clarify what is exactly the “worst-case” referring to?

Response: This would be the lowest resistance factor used out of the common design options whereby we perform a design using static equilibrium methods with no field verification. Other design methods include static load testing, dynamic testing, or both, and yield higher resistance factors. Since the 0.5 design case with no field verification essentially equates to the highest factor of safety, it was considered worst-case.

- How much weight in rating will a collaborator with LA institution have for PI from out state?

The proposal rating form and weighted values will be as provided in the advertisement website.

- I am wondering if the competitors for the research projects are limited to those from universities and/or engineering firms in Louisiana, or they can be anybody, including researchers from LADOTD (LTRC)?

Response: The RFP is an open solicitation with restriction as required by state law. It is open to researchers, firms or entities outside of Louisiana. Full time employees of LADOTD or LTRC are not allowed to be members of the research team.